



January 31, 2022

Ray Vermette  
Facility Supervisor  
City of Dover WWTF  
484 Middle Road  
Dover, NH 03820

**RE: Annual Report for the Biosolids Program 2021**

Dear Mr. Vermette:

Enclosed please find the Wastewater Solids Annual Report which summarizes the recycling activities that Resource Management Inc. (RMI) performed for the wastewater solids generated at the Dover Wastewater Treatment Facility (WWTF) during 2021.

RMI transported the solids from the Dover WWTF to the RMI Residuals Management Facility in New Hampton, NH and processed that material into a Class A biosolids product. After processing, the biosolids were tested and certified for distribution to farms for use on fields to improve soil and fertilize crops. RMI provides biosolids to hundreds of farmers throughout the northeast, and we are pleased that Dover is part of this beneficial nutrient recycling loop to help build healthy soils.

In addition, RMI has partnered with Englobe in Sherbrooke, Quebec to expand our outlets for recycling biosolids. This initiative came because of concerns about PFAS in New Hampshire.

If you have any questions, please feel free to contact me.

Sincerely,

Jess Casterline  
Environmental Compliance Coordinator

Enclosure: *2021 Dover Annual Report*  
*2021 Analytical Data*

Copy: Arnold Powers, City of Dover  
Jimmy Casey, City of Dover



# 2021 Annual Report

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City of Dover WWTF  
484 Middle Road  
Dover, NH 03820

## Submitted on

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January 31, 2022

## Submitted by

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Resource Management, Inc.  
1171 NH RT 175  
Holderness, NH 03245  
603-536-8900  
[www.RMIrecycles.com](http://www.RMIrecycles.com)

## Contents

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Section I	2021 Annual Report
Section II	2021 Analytical Data



# Section I - 2021 Annual Report

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City of Dover WWTF

*City of Dover WWTF – Wastewater Solids - 2021*

# Resource Management, Inc.

Generator Annual Report

2021

## Wastewater Solids

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**Name:**

Dover WWTF

**Address:**

484 Middle Road

Dover, NH 03820

**Operator of Facility:** Ray Vermette

**Phone:** 603-516-6475

**SQC#:**

Wastewater Solids Managed by RMI:	Wet Tons	Dry Tons
	3,074.24	751.04

**Wastewater Solids Delivered:**

Site and Stockpile	Latitude	Longitude	Wet Tons	Dry Tons
RMI Residuals Mgmt Facility	43.6298	-71.6457	3,074.24	751.04
			3,074.24	751.04





## Section II – 2021 Analytical Data

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City of Dover WWTF

*City of Dover WWTF – Wastewater Solids - 2021*

Dover WWTF  
2021 Analytical Data



Laboratory	Sample ID	Parameter	Sample Date
Maine Environmental	WMR 9159	VOC	3/2/2021
Maine Environmental	WMR 9161	SVOC	3/2/2021
Maine Environmental	WMR 9158	Metals	3/2/2021
Maine Environmental	WMR 9895	Metals	6/21/2021
Maine Environmental	WMR 10678	Metals	9/27/2021
Maine Environmental	WMR 10985	Metals	11/4/2021
Alpha Analytical	L2168412	PFAS	12/9/2021

Section	Analyte	CAS #	MDL	3/2/2021	6/21/2021	9/27/2021	11/4/2021	12/9/2021
VOCs	Dichlorodifluoromethane	75-71-8	2.0	< 1				
	Chloromethane	74-87-3	2.0	< 1				
	Vinyl chloride	75-01-4	2.0	< 0.2				
	Chloroethane	75-00-3	2.0	< 1				
	Bromomethane	74-83-9	2.0	< 1				
	Trichlorofluoromethane	75-69-4	2.0	< 1				
	Diethyl ether	60-29-7	2.0	< 0.5				
	Acetone	67-64-1	10.0	24				
	1,1-Dichloroethene	75-35-4	2.0	< 0.5				
	Carbon disulfide	75-15-0	2.0	< 1				
	Methylene chloride	75-09-2	2.0	< 1				
	Methyl-t-butyl ether(MTBE)	1634-04-4	2.0	< 1				
	trans-1,2-Dichloroethene	156-60-5	2.0	< 0.5				
	1,1-Dichloroethane	75-34-3	2.0	< 0.5				
	2-Butanone(MEK)	78-93-3	2.0	14				
	2,2-Dichloropropane	590-20-7	2.0	< 0.5				
	cis-1,2-Dichloroethene	156-59-2	2.0	< 0.5				
	Chloroform	67-66-3	2.0	< 0.5				
	Tetrahydrofuran(THF)	109-99-9	2.0	< 5				
	Bromochloromethane	74-97-5	10.0	< 0.5				
	1,1,1-Trichloroethane	71-55-6	2.0	< 0.5				
	1,1-Dichloropropene	563-58-6	2.0	< 0.5				
	Carbon tetrachloride	56-23-5	2.0	< 0.5				
	1,2-Dichloroethane	107-06-2	2.0	< 0.5				
	Benzene	71-43-2	2.0	< 0.5				
	Trichloroethene	79-01-6	2.0	< 0.5				
	1,2-Dichloropropane	78-87-5	2.0	< 0.5				
	Bromodichloromethane	75-27-4	2.0	< 0.5				
	Dibromomethane	74-95-3	2.0	< 0.5				
	4-Methyl-2-pentanone(MIBK)	108-10-1	10.0	< 5				
	cis-1,3-Dichloropropene	10061-01-5	2.0	< 0.5				
	Toluene	108-88-3	2.0	2.0				
	trans-1,3-Dichloropropene	10061-02-6	2.0	< 0.5				
	1,1,2-Trichloroethane	79-00-5	2.0	< 0.5				
	2-Hexanone	591-78-6	10.0	< 1				
	1,3-Dichloropropane	142-28-9	2.0	< 0.5				
	Tetrachloroethene	127-18-4	2.0	< 0.5				
	Dibromochloromethane	124-48-1	2.0	< 0.5				
	1,2-Dibromoethane	106-93-4	2.0	< 0.2				
	Chlorobenzene	108-90-7	2.0	< 0.5				
	1,1,1,2-Tetrachloroethane	630-20-6	2.0	< 0.5				
	Ethylbenzene	100-41-4	2.0	< 0.5				
	mp-Xylene	108-38-3/106-42-3	2.0	< 0.5				
	o-Xylene	95-47-6	2.0	< 0.5				
	Styrene	100-42-5	2.0	< 0.5				
	Bromoform	75-25-2	2.0	< 0.5				
	iso-Propylbenzene	98-82-8	2.0	< 0.5				
	1,1,2,2-Tetrachloroethane	79-34-5	2.0	< 0.5				
	1,2,3-Trichloropropane	96-18-4	2.0	< 0.5				
	n-Propylbenzene	103-65-1	2.0	< 0.5				
	Bromobenzene	108-86-1	2.0	< 0.5				
	1,3,5-Trimethylbenzene	108-67-8	2.0	< 0.5				
	2-Chlorotoluene	95-49-8	2.0	< 0.5				
	4-Chlorotoluene	106-43-4	2.0	< 0.5				
	tert-Butylbenzene	98-06-6	2.0	< 0.5				
	1,2,4-Trimethylbenzene	95-63-6	2.0	< 0.5				
	sec-Butylbenzene	135-98-8	2.0	< 0.5				
	p-isopropyltoluene	99-87-6	2.0	< 0.5				
	1,3-Dichlorobenzene	541-73-1	2.0	< 0.5				
	1,4-Dichlorobenzene	106-46-7	2.0	< 0.5				
	n-Butylbenzene	104-51-8	2.0	< 0.5				
	1,2-Dichlorobenzene	95-50-1	2.0	< 0.5				
	1,2-Dibromo-3-chloropropane	96-12-8	2.0	< 0.5				
	1,2,4-Trichlorobenzene	102-82-1	2.0	< 0.5				
	Hexachlorobutadiene	87-68-3	2.0	< 0.5				
	Naphthalene	91-20-3	2.0	< 1				
	1,2,3-Trichlorobenzene	87-61-6	2.0	< 0.5				

Section	Analyte	CAS #	MDL	3/2/2021	6/21/2021	9/27/2021	11/4/2021	12/9/2021
SVOCs	Azobenzene (1,2 Diphenalhydrazine)	122-66-7	2.5	< 5				
	2,4-Dinitrophenol	51-28-5	2.5	< 50				
	2,4,6-Trichlorophenol	88-06-2	2.5	< 5				
	2,4-Dichlorophenol	120-83-2	2.5	< 5				
	2,4-Dimethylphenol	105-67-9	2.5	< 20				
	2,4,5-Trichlorophenol	95-95-4	25.0	< 5				
	2,4-Dinitrotoluene	121-14-2	2.5	< 10				
	2,6-Dinitrotoluene	606-20-2	2.5	< 10				
	2-Chloronaphthalene	91-59-7	2.5	< 5				
	2-Chlorophenol	95-57-8	2.5	< 5				
	2-Methylnaphthalene	91-57-6	2.5	< 5				
	2-Methylphenol	95-48-7	5.0	< 5				
	2-Nitroaniline	88-74-4	5.0	< 20				
	2-Nitrophenol	88-75-5	5.0	< 20				
	3,3'-Dichlorobenzidine	91-94-1	10.0	< 5				
	3-Nitroaniline	99-09-2	5.0	< 20				
	3/4-Methylphenol *	106-44-5/106-44-5	5.0	220				
	4,6-Dinitro-2-methylphenol	534-52-1	20.0	< 20				
	4-Bromophenyl-phenylether	101-55-3	10.0	< 5				
	4-Chloro-3-methylphenol	59-50-7	10.0	< 5				
	4-Chloroaniline	106-47-8	2.5	< 5				
	4-Chlorophenyl-phenylether	7005-72-3	10.0	< 5				
	4-Nitroaniline	100-01-6	5.0	< 20				
	4-Nitrophenol	100-02-7	12.0	< 20				
	Acenaphthene	83-32-9	5.0	< 5				
	Acenaphthylene	208-96-8	5.0	< 5				
	Anthracene	120-12-7	5.0	< 5				
	Benzidine	92-87-5	25.0	< 20				
	Benzo(a)anthracene	56-55-3	2.5	< 5				
	Benzo(a)pyrene	50-32-8	2.5	< 5				
	Benzo(b)fluoranthene	205-99-2	2.5	< 5				
	Benzo(g,h,i)perylene	191-24-2	2.5	< 5				
	Benzo(k)fluoranthene	207-08-9	2.5	< 5				
	bis(2-Chloroethoxy)methane	111-91-1	5.0	< 5				
	bis(2-Chloroethyl)ether	111-44-4	2.5	< 5				
	bis(2-chloroisopropyl)ether (2,2 Oxybis(1-Chloropropane)	39638-32-9	2.0	< 5				
	bis(2-Ethylhexyl)phthalate	117-81-7	5.0	< 20				
	Butylbenzylphthalate	85-68-7	5.0	< 20				
	Carbazole	86-74-8	2.5	< 5				
	Chrysene	218-01-9	2.5	< 5				
	Di-n-butylphthalate	84-74-2	5.0	< 20				
	Di-n-octylphthalate	117-84-0	5.0	< 20				
	Dibenzo(a,h)anthracene	53-70-3	2.5	< 5				
	Dibenzofuran	132-64-9	2.5	< 5				
	Diethylphthalate	84-66-2	5.0	< 20				
	Dimethylphthalate	131-11-3	5.0	< 5				
	Fluoranthene	206-44-0	2.5	< 5				
	Fluorene	86-73-7	2.5	< 5				
	Hexachlorobenzene	118-74-1	2.5	< 5				
	Hexachlorocyclopentadiene	77-47-4	5.0	< 20				
	Hexachloroethane	67-72-1	2.5	< 5				
	Indeno(1,2,3-cd)pyrene	193-39-5	2.5	< 5				
	Isophorone	78-59-1	2.5	< 5				
	n-Nitroso-di-n-propylamine	621-64-7	2.5	< 3				
	N-Nitrosodimethylamine	62-75-9	5.0	< 5				
	n-Nitrosodiphenylamine	86-30-6	2.5	< 5				
	Nitrobenzene	98-95-3	2.5	< 5				
	Pentachlorophenol	87-86-5	5.0	< 20				
	Phenanthrene	85-01-8	2.5	< 5				
	Phenol	108-95-2	5.0	21				
	Pyrene	129-00-0	2.5	< 5				

Section	Analyte	CAS #	MDL	3/2/2021	6/21/2021	9/27/2021	11/4/2021	12/9/2021
Metals	Arsenic	7440-38-2	10.0	8	12	18	22	
	Cadmium	7440-43-9	1.0	< 1.3	<1.3	<1.3	< 1.1	
	Chromium	7440-47-3	10.0	16	18	19	27	
	Copper	7440-50-8	10.0	230	370	400	370	
	Lead	7439-92-1	11.0	9.5 J	15	17	26	
	Mercury	7439-97-6	0.05	0.17 J	0.28	0.57	0.59	
	Molybdenum	7439-98-7	10.0	3 J	4.7	7	6.6	
	Nickel	7440-02-0	10.0	9.5 J	12 J	15	18	
	Selenium	7782-49-2	18.0	5.3 J	<2.1	<2.1	2.4 J	
	Zinc	7440-66-6	10.0	460	900	950	920	
Nutrients	pH	na	na					
	Solids Total (%)	na	na	22.99	23.59	23.73	27.42	22
	Nitrate/Nitrite	na	30					
	TKN	na	300					
	Ammonia Nitrogen	na	30					
	Total Organic Nitrogen	na	na					
	Potassium	na	15					
	Phosphorus	7723-14-0	15					
PFAS (ng/g)	Perfluorobutanoic Acid (PFBA)	375-22-4	na					<1.08
	Perfluoropentanoic Acid (PFPeA)	2706-90-3	na					<1.08
	Perfluorohexanoic Acid (PFHxA)	307-24-4	na					<1.08
	Perfluoroheptanoic Acid (PFHpA)	375-85-9	na					<0.540
	Perfluorooctanoic Acid (PFOA)	335-67-1	na					0.847 F
	Perfluorononanoic Acid (PFNA)	375-95-1	na					<0.540
	Perfluorobutanesulfonic Acid (PFBS)	375-73-5	na					<0.540
	Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	na					<0.540
	Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	na					10.6

All concentrations in mg/kg listed by sample data, unless otherwise specified

J = estimated value

F = estimated maximum value

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# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

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## Report of Analyses

### Report Prepared for:

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 9159  
Report ID: 9159-210316-1717  
Date of Issue: March 16, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory Chain of Custody form  
Eastern Analytical, Inc. report

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

Maine Environmental Laboratory is accredited by the States of Maine (Cert. #ME00028) and New Hampshire (NH ELAP) (Cert. #2031) and is TNI/NELAP accredited. Please refer to our website [www.maineenvironmentallaboratory.com](http://www.maineenvironmentallaboratory.com) for a copy of our Maine and NH ELAP certificates and accredited parameters. When a subcontracted laboratory is listed above, the data produced is by a Maine accredited laboratory accredited for the fields of testing performed.

Unless otherwise noted:

- Samples were received in acceptable condition and analyzed within method hold times.
- Soils, sediment, solids and tissues are reported on dry weight basis. Wipes are reported on an "as received" basis.
- All quality control data demonstrated acceptable limits.
- The results reported herein conform to the 2009 TNI standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, alkalinity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.

### DEFINITIONS:

LOQ / RL - The Limit of Quantitation / Reporting Limit is the minimum level for reporting quantitative data.

LOD / MDL - The Limit of Detection / Method Detection Limit is the minimum level for reporting estimated data.

J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."

ND or U - Not detected below the LOD / MDL

B - Detected in QC blank

S - Detection Limits increased due to sample matrix

D1 - Relative Percent Difference (RPD) cannot be calculated because the sample result was below the LOQ.

D2 - Native sample concentration was less than 5 times the LOQ. RPD acceptance range is  $\pm$  LOQ.

4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.

% Rec - Percent Recovery; RPD - Relative Percent Difference

D - Duplicate sample

R - Reanalysis

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:

*Jacquelyn R. Villinski*





# Eastern Analytical, Inc.

*professional laboratory and drilling services*

Jackie Villinski  
Maine Environmental Laboratory  
One Main Street  
Yarmouth, ME 04096



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 222982  
Client Identification: WMR 9159  
Date Received: 3/5/2021

Dear Ms. Villinski :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.easternanalytical.com](http://www.easternanalytical.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R : % Recovery

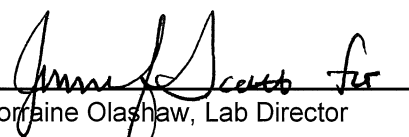
Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

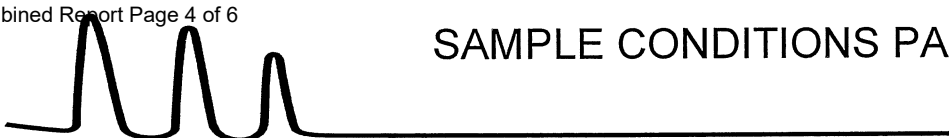
  
Lorraine Olashaw, Lab Director

3.12.21  
Date

3  
# of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE



EAI ID#: 222982

Client: **Maine Environmental Laboratory**

Client Designation: **WMR 9159**

Temperature upon receipt (°C): **4.7**

Acceptable temperature range (°C): 0-6

Received on ice or cold packs (Yes/No): **Y**

Lab ID	Sample ID	Date	Date/Time		Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
		Received	Received	Sampled			
222982.01	DOV - WWS	3/5/21	3/2/21	11:00	sludge	22.6	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an “as received” basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 4th edition, 1992

## LABORATORY REPORT

EAI ID#: 222982

Client: **Maine Environmental Laboratory**Client Designation: **WMR 9159**

Client Sample ID: DOV - WWS

Date of Preparation: 3/5/21

Lab Sample ID: 222982.01

Method: 8260C

Matrix: sludge

Analyst: JAK

Date Sampled: 3/2/21

Units: mg/kg

Date Received: 3/5/21

	Result	RL	Dilution Factor	Date Analyzed		Result	RL	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	< 1	1	11	3/5/21	1,2-Dibromoethane(EDB)	< 0.2	0.2	11	3/5/21
Chloromethane	< 1	1	11	3/5/21	Chlorobenzene	< 0.5	0.5	11	3/5/21
Vinyl chloride	< 0.2	0.2	11	3/5/21	1,1,1,2-Tetrachloroethane	< 0.5	0.5	11	3/5/21
Bromomethane	< 1	1	11	3/5/21	Ethylbenzene	< 0.5	0.5	11	3/5/21
Chloroethane	< 1	1	11	3/5/21	mp-Xylene	< 0.5	0.5	11	3/5/21
Trichlorofluoromethane	< 1	1	11	3/5/21	o-Xylene	< 0.5	0.5	11	3/5/21
Diethyl Ether	< 0.5	0.5	11	3/5/21	Styrene	< 0.5	0.5	11	3/5/21
Acetone	<b>24</b>	20	11	3/5/21	Bromoform	< 0.5	0.5	11	3/5/21
1,1-Dichloroethene	< 0.5	0.5	11	3/5/21	IsoPropylbenzene	< 0.5	0.5	11	3/5/21
tert-Butyl Alcohol (TBA)	< 20	20	11	3/5/21	Bromobenzene	< 0.5	0.5	11	3/5/21
Methylene chloride	< 1	1	11	3/5/21	1,1,2,2-Tetrachloroethane	< 0.5	0.5	11	3/5/21
Carbon disulfide	< 1	1	11	3/5/21	1,2,3-Trichloropropane	< 0.5	0.5	11	3/5/21
Methyl-t-butyl ether(MTBE)	< 1	1	11	3/5/21	n-Propylbenzene	< 0.5	0.5	11	3/5/21
Ethyl-t-butyl ether(ETBE)	< 1	1	11	3/5/21	2-Chlorotoluene	< 0.5	0.5	11	3/5/21
Isopropyl ether(DIPE)	< 1	1	11	3/5/21	4-Chlorotoluene	< 0.5	0.5	11	3/5/21
tert-amyl methyl ether(TAME)	< 1	1	11	3/5/21	1,3,5-Trimethylbenzene	< 0.5	0.5	11	3/5/21
trans-1,2-Dichloroethene	< 0.5	0.5	11	3/5/21	tert-Butylbenzene	< 0.5	0.5	11	3/5/21
1,1-Dichloroethane	< 0.5	0.5	11	3/5/21	1,2,4-Trimethylbenzene	< 0.5	0.5	11	3/5/21
2,2-Dichloropropane	< 0.5	0.5	11	3/5/21	sec-Butylbenzene	< 0.5	0.5	11	3/5/21
cis-1,2-Dichloroethene	< 0.5	0.5	11	3/5/21	1,3-Dichlorobenzene	< 0.5	0.5	11	3/5/21
2-Butanone(MEK)	<b>14</b>	5	11	3/5/21	p-Isopropyltoluene	< 0.5	0.5	11	3/5/21
Bromochloromethane	< 0.5	0.5	11	3/5/21	1,4-Dichlorobenzene	< 0.5	0.5	11	3/5/21
Tetrahydrofuran(THF)	< 5	5	11	3/5/21	1,2-Dichlorobenzene	< 0.5	0.5	11	3/5/21
Chloroform	< 0.5	0.5	11	3/5/21	n-Butylbenzene	< 0.5	0.5	11	3/5/21
1,1,1-Trichloroethane	< 0.5	0.5	11	3/5/21	1,2-Dibromo-3-chloropropane	< 0.5	0.5	11	3/5/21
Carbon tetrachloride	< 0.5	0.5	11	3/5/21	1,3,5-Trichlorobenzene	< 0.5	0.5	11	3/5/21
1,1-Dichloropropene	< 0.5	0.5	11	3/5/21	1,2,4-Trichlorobenzene	< 0.5	0.5	11	3/5/21
Benzene	< 0.5	0.5	11	3/5/21	Hexachlorobutadiene	< 0.5	0.5	11	3/5/21
1,2-Dichloroethane	< 0.5	0.5	11	3/5/21	Naphthalene	< 1	1	11	3/5/21
Trichloroethene	< 0.5	0.5	11	3/5/21	1,2,3-Trichlorobenzene	< 0.5	0.5	11	3/5/21
1,2-Dichloropropane	< 0.5	0.5	11	3/5/21	4-Bromofluorobenzene (surr)	<b>107 %R</b>			3/5/21
Dibromomethane	< 0.5	0.5	11	3/5/21	1,2-Dichlorobenzene-d4	<b>96 %R</b>			3/5/21
Bromodichloromethane	< 0.5	0.5	11	3/5/21	Toluene-d8 (surr)	<b>96 %R</b>			3/5/21
1,4-Dioxane	< 10	10	11	3/5/21	1,2-Dichloroethane-d4 (surr)	<b>97 %R</b>			3/5/21
4-Methyl-2-pentanone(MIBK)	< 5	5	11	3/5/21					
cis-1,3-Dichloropropene	< 0.5	0.5	11	3/5/21					
Toluene	<b>2.0</b>	0.5	11	3/5/21					
trans-1,3-Dichloropropene	< 0.5	0.5	11	3/5/21					
1,1,2-Trichloroethane	< 0.5	0.5	11	3/5/21					
2-Hexanone	< 1	1	11	3/5/21					
Tetrachloroethene	< 0.5	0.5	11	3/5/21					
1,3-Dichloropropane	< 0.5	0.5	11	3/5/21					
Dibromochloromethane	< 0.5	0.5	11	3/5/21					

SQC

Reporting limits elevated due to the addition of methanol required for sufficient methanol for sample analysis.



**MAINE ENVIRONMENTAL LABORATORY- Chain of Custody**  
One Main Street Yarmouth, ME 04096-6716 Tel: (207) 846-6569 Fax: (207) 846-9066  
Email: melab@mel-lab.com Web: MaineEnvironmentalLaboratory.com

**ANALYSES**  
Specify Required Method

**222982**

REPORT TO: **S. Villinski** EMAIL: TELEPHONE:  
COMPANY: BILL TO / PURCHASE ORDER #

ADDRESS

PROJECT NAME: **WMR 9159** SAMPLER NAME: QUOTE #

SAMPLE IDENTIFICATION

# CONTAINERS  
TYPE OF CONTAINERS  
FIELD FILTRATION  
YES NO

SAMPLE TYPE

GRAB

METHOD PRESERVED

SAMPLING  
DATE TIME

**DOV - WMS**

**2** **1** **plunger**

**SC**

**X**

**4621** **methanol**

**3-2-21**

**1100**

**X**

LAB ID/SUBCONTRACTOR

Del. by: **4.7**  
Temp. °C

SAMPLE RECEIVING  
Within Hold Time? ☐ Yes ☐ No ☐ N/A  
Good Condition? ☐ Yes ☐ No ☐ N/A  
Preserved? ☐ Yes ☐ No ☐ N/A  
Custody Seal? ☐ Yes ☐ No ☐ N/A

TURNAROUND REQUEST  
☒ Standard **315**  
☐ Priority (SURCHARGE)  
REPORTING REQUIREMENTS?  
☐ Standard Report  
☐ ME DEP EDD ☐ STUTOX  
☐ DW Compliance (sent to State)  
☐ CC Results to

COMMENTS  
**UH SOC RQMT EDD**

RELINQUISHED BY: **MEC 3120101-45**

DATE

TIME

RECEIVED BY:

MEL reserves the right to subcontract analyses at MEL's discretion.

RELINQUISHED BY: **315**

DATE **3-5-21**

TIME **13:15**

RECEIVED BY: **315**

---

# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

---

## Report of Analyses

### Report Prepared for:

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 9161  
Report ID: 9161-210316-1718  
Date of Issue: March 16, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory Chain of Custody form  
Eastern Analytical, Inc. report

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

Maine Environmental Laboratory is accredited by the States of Maine (Cert. #ME00028) and New Hampshire (NH ELAP) (Cert. #2031) and is TNI/NELAP accredited. Please refer to our website [www.maineenvironmentallaboratory.com](http://www.maineenvironmentallaboratory.com) for a copy of our Maine and NH ELAP certificates and accredited parameters. When a subcontracted laboratory is listed above, the data produced is by a Maine accredited laboratory accredited for the fields of testing performed.

Unless otherwise noted:

- Samples were received in acceptable condition and analyzed within method hold times.
- Soils, sediment, solids and tissues are reported on dry weight basis. Wipes are reported on an "as received" basis.
- All quality control data demonstrated acceptable limits.
- The results reported herein conform to the 2009 TNI standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, alkalinity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.

### DEFINITIONS:

LOQ / RL - The Limit of Quantitation / Reporting Limit is the minimum level for reporting quantitative data.

LOD / MDL - The Limit of Detection / Method Detection Limit is the minimum level for reporting estimated data.

J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."

ND or U - Not detected below the LOD / MDL

B - Detected in QC blank

S - Detection Limits increased due to sample matrix

D1 - Relative Percent Difference (RPD) cannot be calculated because the sample result was below the LOQ.

D2 - Native sample concentration was less than 5 times the LOQ. RPD acceptance range is  $\pm$  LOQ.

4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.

% Rec - Percent Recovery; RPD - Relative Percent Difference

D - Duplicate sample

R - Reanalysis

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:

*Jacquelyn R. Villinski*

# Maine Environmental Laboratory - Chain of Custody

One Main Street Yarmouth, Maine 04096-6716 (207) 846-6569 Fax: (207) 846-9066

email: melab@maine.me.gov

Telephone

Fax/E-Mail

Project Manager  
April Sargent

603-536-8900

labdata@mainecycles.com

Company

Purchase Order #Bill To

Resource Management, Inc

2021DOV

Address

1171 NH RT 175 Holderness, NH 03245

Project Name

Sampler Name

DOV

April Sargent

## Sample Identification

DOV - Raw

1

4 oz.  
Amber  
Jar

Field  
Filtration  
(Yes or No)

No

Sample  
Matrix

Sludge

Grab

X

Composite

Method  
Preserved

4C

3/2/2021

11:00

SVOC - EPA 8270

## Analyses

Semi-Volatile Organic Compounds

Laboratory Report #

Delivered by:

UP S

Turnaround Request:

Standard

Priority

Quote #

Laboratory Identification/  
Subcontractor

2103031003-EAT

Received in hold time

yes

no

N/A

Custody seal present

yes

no

Comments: NH SOC Limits and EDD

Received in good condition

yes

no

N/A

Date

Received by:

Date

Time

Received by Laboratory

Temp. Blank °C 1.6 /Frozen ice packs

yes

no

N/A

Date

Received by:

Date

Time

Received by Laboratory

Samples received preserved

yes

no

N/A

Date

Received by:

Date

Time

Received by Laboratory

Relinquished by:

Date

Received by:

Date

Time

Received by Laboratory

Relinquished by:

Date

Received by:

Date

Time

Received by Laboratory

MEL Combining



# Eastern Analytical, Inc.

*professional laboratory and drilling services*

Jackie Villinski  
Maine Environmental Laboratory  
One Main Street  
Yarmouth, ME 04096



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 222981  
Client Identification: WMR 9161  
Date Received: 3/5/2021

Dear Ms. Villinski :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.easternanalytical.com](http://www.easternanalytical.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted  
< : "less than" followed by the reporting limit  
> : "greater than" followed by the reporting limit  
%R : % Recovery

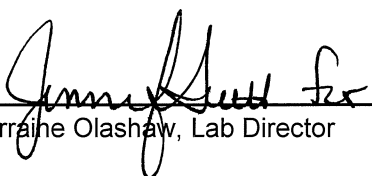
Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

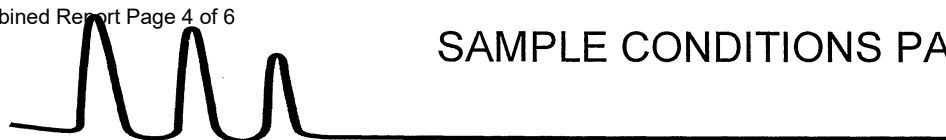
We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

  
Lorraine Olashaw, Lab Director

3.12.21  
Date

3  
# of pages (excluding cover letter)



EAI ID#: 222981

Client: **Maine Environmental Laboratory**

Client Designation: **WMR 9161**

**Temperature upon receipt (°C): 4.7**

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
222981.01	DOV - Raw	3/5/21	3/2/21 11:00	sludge	21.7	Adheres to Sample Acceptance Policy

*Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.*

*All results contained in this report relate only to the above listed samples.*

*References include:*

- 1) EPA 600/4-79-020, 1983
- 2) *Standard Methods for Examination of Water and Wastewater*, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) *Test Methods for Evaluating Solid Waste SW 846* 3rd Edition including updates IVA and IVB
- 4) *Hach Water Analysis Handbook*, 4th edition, 1992

## LABORATORY REPORT

EAI ID#: 222981

Client: **Maine Environmental Laboratory**Client Designation: **WMR 9161**

Client Sample ID: DOV - Raw

Date of Preparation: 3/8/21

Lab Sample ID: 222981.01

Method: 8270D

Matrix: sludge

Analyst: JMR

Date Sampled: 3/2/21

Units: mg/kg

Date Received: 3/5/21

	Result	RL	Dilution Factor	Date Analyzed		Result	RL	Dilution Factor	Date Analyzed
Phenol	21	5	69	3/9/21	Di-n-octylphthalate	< 20	20	69	3/9/21
2-Chlorophenol	< 5	5	69	3/9/21	Dibenzofuran	< 5	5	69	3/9/21
2,4-Dichlorophenol	< 5	5	69	3/9/21	2-Methylnaphthalene	< 5	5	69	3/9/21
2,4,5-Trichlorophenol	< 5	5	69	3/9/21	Acenaphthylene	< 5	5	69	3/9/21
2,4,6-Trichlorophenol	< 5	5	69	3/9/21	Acenaphthene	< 5	5	69	3/9/21
Pentachlorophenol	< 20	20	69	3/9/21	Fluorene	< 5	5	69	3/9/21
2-Nitrophenol	< 20	20	69	3/9/21	Phenanthrene	< 5	5	69	3/9/21
4-Nitrophenol	< 20	20	69	3/9/21	Anthracene	< 5	5	69	3/9/21
2,4-Dinitrophenol	< 50	50	69	3/9/21	Fluoranthene	< 5	5	69	3/9/21
2-Methylphenol	< 5	5	69	3/9/21	Pyrene	< 5	5	69	3/9/21
3/4-Methylphenol	220	5	69	3/9/21	Benzo[a]anthracene	< 5	5	69	3/9/21
2,4-Dimethylphenol	< 20	20	69	3/9/21	Chrysene	< 5	5	69	3/9/21
4-Chloro-3-methylphenol	< 5	5	69	3/9/21	Benzo[b]fluoranthene	< 5	5	69	3/9/21
4,6-Dinitro-2-methylphenol	< 20	20	69	3/9/21	Benzo[k]fluoranthene	< 5	5	69	3/9/21
N-Nitrosodimethylamine	< 5	5	69	3/9/21	Benzo[a]pyrene	< 5	5	69	3/9/21
n-Nitroso-di-n-propylamine	< 3	3	69	3/9/21	Indeno[1,2,3-cd]pyrene	< 5	5	69	3/9/21
n-Nitrosodiphenylamine	< 5	5	69	3/9/21	Dibenz[a,h]anthracene	< 5	5	69	3/9/21
bis(2-Chloroethyl)ether	< 5	5	69	3/9/21	Benzo[g,h,i]perylene	< 5	5	69	3/9/21
bis(2-chloroisopropyl)ether	< 5	5	69	3/9/21	2-Fluorophenol (surr)	67 %R			3/9/21
bis(2-Chloroethoxy)methane	< 5	5	69	3/9/21	Phenol-d6 (surr)	72 %R			3/9/21
2-Chloronaphthalene	< 5	5	69	3/9/21	2,4,6-Tribromophenol (surr)	97 %R			3/9/21
4-Chlorophenyl-phenylether	< 5	5	69	3/9/21	Nitrobenzene-D5 (surr)	73 %R			3/9/21
4-Bromophenyl-phenylether	< 5	5	69	3/9/21	2-Fluorobiphenyl (surr)	85 %R			3/9/21
Hexachloroethane	< 5	5	69	3/9/21	p-Terphenyl-D14 (surr)	79 %R			3/9/21
Hexachlorocyclopentadiene	< 20	20	69	3/9/21					
Hexachlorobenzene	< 5	5	69	3/9/21					
4-Chloroaniline	< 5	5	69	3/9/21					
2-Nitroaniline	< 20	20	69	3/9/21					
3-Nitroaniline	< 20	20	69	3/9/21					
4-Nitroaniline	< 20	20	69	3/9/21					
Nitrobenzene	< 5	5	69	3/9/21					
Isophorone	< 5	5	69	3/9/21					
2,4-Dinitrotoluene	< 10	10	69	3/9/21					
2,6-Dinitrotoluene	< 10	10	69	3/9/21					
Benzidine (estimated)	< 20	20	69	3/9/21					
3,3'-Dichlorobenzidine	< 5	5	69	3/9/21					
Azobenzene	< 5	5	69	3/9/21					
Carbazole	< 5	5	69	3/9/21					
Dimethylphthalate	< 5	5	69	3/9/21					
Diethylphthalate	< 20	20	69	3/9/21					
Di-n-butylphthalate	< 20	20	69	3/9/21					
Butylbenzylphthalate	< 20	20	69	3/9/21					
bis(2-Ethylhexyl)phthalate	< 20	20	69	3/9/21					

2,4-Dinitrophenol exhibited recovery below acceptance limits in the calibration verification. 2,4-Dinitrophenol was not detected in the sample. Detection limits elevated due to low solids content and in response to the lower initial mass used for analysis. SQC





# MAINE ENVIRONMENTAL LABORATORY- Chain of Custody

ANALYSES  
Specify Required Method

222981



One Main Street Yarmouth, ME 04096-6716 Tel: (207) 846-6569 Fax: (207) 846-9066

Email: melab@mel-lab.com Web: MaineEnvironmentalLaboratory.com

REPORT TO J. Villinski EMAIL TELEPHONE

COMPANY BILL TO / PURCHASE ORDER #

ADDRESS

PROJECT NAME WMR 9161 SAMPLER NAME QUOTE #

SAMPLE IDENTIFICATION

# CONTAINERS  
TYPE OF CONTAINERS

FIELD FILTRATION  
YES NO

SAMPLE TYPE

GRAB

COMP.

METHOD PRESERVED

SAMPLING  
DATE TIME

DOV - Raw

1

G

X

SC

X

EGC

3-2-21

1100

X

SVCC - EPA 8270

SAMPLE RECEIVING

Within Hold Time?

☐ Yes ☐ No ☐ N/A

Good Condition?

☐ Yes ☐ No ☐ N/A

Preserved?

☐ Yes ☐ No ☐ N/A

Custody Seal?

☐ Yes ☐ No ☐ N/A

Del. by:

Temp. °C 4.7

LAB ID/SUBCONTRACTOR

TURNAROUND REQUEST

☒ Standard 3115

☐ Priority (SURCHARGE)

REPORTING REQUIREMENTS?

☐ Standard Report

☐ ME DEP EDD ☐ STUTOX

☐ DW Compliance (sent to State)

☐ CC Results to

COMMENTS

NH SOC + RM EDD

RELINQUISHED BY: J. Villinski

DATE

TIME

RECEIVED BY:

MEL reserves the right to subcontract analyses at MEL's discretion.

RELINQUISHED BY: J. Villinski

DATE

TIME

RECEIVED BY:

RELINQUISHED BY: J. Villinski

DATE

TIME

RECEIVED BY:

---

# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

---

## Report of Analyses

### Report Prepared for:

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 9158  
Report ID: 9158-210317-1638  
Date of Issue: March 17, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory report  
Chain of Custody form

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

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Unless otherwise noted:

- Samples were received in acceptable condition and analyzed within method hold times.
- Soils, sediments, solids and tissues are reported on dry weight basis. Wipes are reported on an "as received" basis.
- All quality control data demonstrated acceptable limits
- The results reported herein conform to the most current NELAP standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.

### DEFINITIONS:

LOQ / RL - The Limit of Quantitation / Reporting Limit is the minimum level for reporting quantitative data.  
LOD / MDL - The Limit of Detection / Method Detection Limit is the minimum level for reporting estimated data.  
J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."  
ND or U - Not detected below the LOD / MDL  
B - Detected in QC blank  
S - Detection Limits increased due to sample matrix  
D1 - Relative Percent Difference (RPD) cannot be calculated because the sample result was below the LOQ.  
D2 - Native sample concentration was less than 5 times the LOQ. RPD acceptance range is  $\pm$  LOQ.  
4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.  
% Rec - Percent Recovery; RPD - Relative Percent Difference  
D - Duplicate sample  
R - Reanalysis  
DO - BOD: insufficient dissolved oxygen depletion to calculate Matrix Spike and MSD recoveries.

### METHOD REFERENCES:

SM2540G: Standard Methods for the Examination of Water and Wastewater, 18th edition, APHA, AWWA, WPCF, 1992.  
SW3050B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.  
SW6010C: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.  
SW7471B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:

*Jacquelyn R. Villinski*

**Maine Environmental Laboratory****Report of Analyses**

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

April Sargent  
 Resource Management, Inc.  
 1171 NH Route 175  
 Holderness, NH 03245

March 17, 2021

Report ID: 9158-210317-1638  
 Batch ID: WMR 9158  
 Date received: 03/03/21  
 Project ID: DOV

Sample ID: DOV-WWS  
 Sample date: 03/02/21 11:00  
 Sample matrix: SU - composite  
 Laboratory ID: 210303K008

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	22.99	%	03/04/21	13:30		0.01	SM2540G	DJC
Mercury, total	0.17 J	mg/kg	03/15/21	14:00	0.087	0.22	SW7471B	DWS
Arsenic, total	8.0	mg/kg	03/16/21	8:55	1.3	4.4	SW3050B/SW6010C	DWS
Cadmium, total	ND	mg/kg	03/16/21	8:55	1.3	4.4	SW3050B/SW6010C	DWS
Chromium, total	16	mg/kg	03/16/21	8:55	4.4	13	SW3050B/SW6010C	DWS
Copper, total	230	mg/kg	03/16/21	8:55	4.4	13	SW3050B/SW6010C	DWS
Lead, total	9.5 J	mg/kg	03/16/21	8:55	4.4	13	SW3050B/SW6010C	DWS
Molybdenum, total	3.0 J	mg/kg	03/16/21	8:55	1.3	4.4	SW3050B/SW6010C	DWS
Nickel, total	9.5 J	mg/kg	03/16/21	8:55	4.4	13	SW3050B/SW6010C	DWS
Selenium, total	5.3 J	mg/kg	03/16/21	8:55	2.2	6.5	SW3050B/SW6010C	DWS
Zinc, total	460	mg/kg	03/16/21	8:55	4.4	13	SW3050B/SW6010C	DWS

Notes:

# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096

Tel: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

## Report of Analyses

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

**Date of Issue:** 3/17/2021

**Report ID:** 9158-210317-1638

### QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Arsenic, total	LCS - S	Recovery	103	%	131	69	Concentration	27.05	mg/kg	
Arsenic, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Cadmium, total	LCS - S	Recovery	103	%	131	69	Concentration	104.2	mg/kg	
Cadmium, total	Method Blank - S	Concentration	0.010 U	mg/kg	1.4					
Chromium, total	LCS - S	Recovery	105	%	131	69	Concentration	73.99	mg/kg	
Chromium, total	Method Blank - S	Concentration	0.010 U	mg/kg	3.4					
Copper, total	LCS - S	Recovery	106	%	131	69	Concentration	71.98	mg/kg	
Copper, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Lead, total	LCS - S	Recovery	115	%	131	69	Concentration	121.9	mg/kg	
Lead, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Mercury, total	LCS - S	Recovery	93	%	121	79	Concentration	0.466	mg/kg	
Mercury, total	LCS - S	Recovery	92	%	121	79	Concentration	0.918	mg/kg	
Mercury, total	Method Blank - S	Concentration	0 U	mg/kg	0.054					
Molybdenum, total	LCS - S	Recovery	99	%	131	69	Concentration	56.33	mg/kg	
Molybdenum, total	Method Blank - S	Concentration	0.090 U	mg/kg	1.4					
Nickel, total	LCS - S	Recovery	106	%	131	69	Concentration	55.33	mg/kg	
Nickel, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Selenium, total	LCS - S	Recovery	107	%	131	69	Concentration	43.55	mg/kg	
Selenium, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Total Solids	Duplicate - S %	RPD	6.0	%	6		Concentration	24.3	%	210303K008
Total Solids	LCS - S	Recovery	100	%	121	79	Concentration	50	mg/kg	
Total Solids	Method Blank - S	Concentration	0 U	mg/kg	0.014			0.01		
Zinc, total	LCS - S	Recovery	106	%	131	69	Concentration	535.2	mg/kg	
Zinc, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					

Maine Environmental Laboratory - Chain of Custody										Analyses		Laboratory Report #											
One Main Street Yarmouth, Maine 04096-6716 (207) 846-6569 Fax: (207) 846-9066 email: melab@maine.rr.com										Delivered by: <span style="font-size: 1.5em; vertical-align: middle;">UMR 9158</span>													
Project Manager		Telephone		Fax/E-Mail		Turnaround Request: Standard _____ Priority _____ Quote # _____																	
April Sargent		603-536-8900		labdata@rmirecycles.com																			
Company		Purchase Order #/Bill To																					
Resource Management, Inc		2021DOV																					
Address																							
1171 NH RT 175 Holderness, NH 03245																							
Project Name		Sampler Name																					
DOV		April Sargent																					
Sample Identification	# Containers	Container Type	Field Filtration (Yes or No)	Sample Matrix	Grab	Composite	Method Preserved	Sampling Date/Time															
DOV - WWS	1	Bag	No	Sludge		X	4C	2-Mar	11:00	% Solids	X												
										Arsenic	X												
										Cadmium	X												
										Chromium	X												
										Copper	X												
										Lead	X												
										Mercury	X												
										Molybdenum	X												
										Nickel	X												
										Selenium	X												
										Zinc	X												
										Laboratory Identification/ Subcontractor	210303K008												
Received in hold time <input checked="" type="radio"/> yes <input type="radio"/> no    Custody seal present <input type="radio"/> yes <input checked="" type="radio"/> no Received in good condition <input checked="" type="radio"/> yes <input type="radio"/> no    N/A Temp. Blank °C <u>1.6</u> /Frozen ice packs <input checked="" type="radio"/> yes <input type="radio"/> no    N/A Samples received preserved <input checked="" type="radio"/> yes <input type="radio"/> no Relinquished by Sampler: <span style="font-family: cursive;">[Signature]</span> Relinquished by: _____ Relinquished by: _____ Date <u>3/2/21</u> Time <u>12:30</u> Received by: _____ Date <u>3/3/21</u> Time <u>10:15</u> Received by Laboratory <span style="font-family: cursive;">[Signature]</span>																							
Comments: NH SQC Detection Limits & EDD																							

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# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

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## Report of Analyses

### Report Prepared for:

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 9895  
Report ID: 9895-210714-1658  
Date of Issue: July 14, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory report  
Chain of Custody form

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

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- All quality control data demonstrated acceptable limits
- The results reported herein conform to the most current NELAP standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.
- %RPD is not calculated when the native sample concentration is below 5 x LOQ.

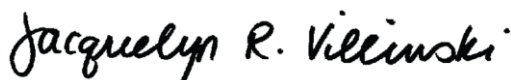
### DEFINITIONS:

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LOD / MDL - The Limit of Detection / Method Detection Limit is the minimum level for reporting estimated data.  
J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."  
ND or U - Not detected below the LOD / MDL  
B - Detected in QC blank  
S - Detection Limits increased due to sample matrix  
4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.  
% Rec - Percent Recovery; RPD - Relative Percent Difference  
D - Duplicate sample  
R - Reanalysis  
DO - BOD: insufficient dissolved oxygen depletion to calculate Matrix Spike and MSD recoveries.

### METHOD REFERENCES:

SM2540G: Standard Methods for the Examination of Water and Wastewater, 18th edition, APHA, AWWA, WPCF, 1992.  
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SW7471B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:



**Maine Environmental Laboratory****Report of Analyses**

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

April Sargent  
 Resource Management, Inc.  
 1171 NH Route 175  
 Holderness, NH 03245

July 14, 2021

Report ID: 9895-210714-1658  
 Batch ID: WMR 9895  
 Date received: 06/24/21  
 Project ID: DOV

Sample ID: DOV - WWS  
 Sample date: 06/21/21 11:00  
 Sample matrix: SU - composite  
 Laboratory ID: 210624P008

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	23.59	%	06/24/21	16:07		0.01	SM2540G	DJC
Mercury, total	0.28	mg/kg	07/02/21	8:45	0.085	0.21	SW7471B	DWS
Arsenic, total	12	mg/kg	07/09/21	8:30	1.3	4.2	SW3050B/SW6010C	DWS
Cadmium, total	ND	mg/kg	07/09/21	8:30	1.3	4.2	SW3050B/SW6010C	DWS
Chromium, total	18	mg/kg	07/09/21	8:30	4.2	13	SW3050B/SW6010C	DWS
Copper, total	370	mg/kg	07/09/21	8:30	4.2	13	SW3050B/SW6010C	DWS
Lead, total	15	mg/kg	07/09/21	8:30	4.2	13	SW3050B/SW6010C	DWS
Molybdenum, total	4.7	mg/kg	07/09/21	8:30	1.3	4.2	SW3050B/SW6010C	DWS
Nickel, total	12 J	mg/kg	07/09/21	8:30	4.2	13	SW3050B/SW6010C	DWS
Selenium, total	ND	mg/kg	07/09/21	8:30	2.1	6.4	SW3050B/SW6010C	DWS
Zinc, total	900	mg/kg	07/09/21	8:30	4.2	13	SW3050B/SW6010C	DWS

Notes:

# Maine Environmental Laboratory

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FAX: 207-846-9066

Email: melab@mel-lab.com

## Report of Analyses

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

**Date of Issue:** 7/14/2021

**Report ID:** 9895-210714-1658

### QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Arsenic, total	LCS - S	Recovery	100	%	131	69	Concentration	26.22	mg/kg	
Arsenic, total	LCS - S	Recovery	96	%	131	69	Concentration	25.35	mg/kg	
Arsenic, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Cadmium, total	LCS - S	Recovery	98	%	131	69	Concentration	99.47	mg/kg	
Cadmium, total	LCS - S	Recovery	97	%	131	69	Concentration	98.06	mg/kg	
Cadmium, total	Method Blank - S	Concentration	0.040 U	mg/kg	1.4					
Chromium, total	LCS - S	Recovery	103	%	131	69	Concentration	72.7	mg/kg	
Chromium, total	LCS - S	Recovery	106	%	131	69	Concentration	74.53	mg/kg	
Chromium, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Copper, total	LCS - S	Recovery	100	%	131	69	Concentration	67.92	mg/kg	
Copper, total	LCS - S	Recovery	100	%	131	69	Concentration	67.88	mg/kg	
Copper, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Lead, total	LCS - S	Recovery	100	%	131	69	Concentration	106.2	mg/kg	
Lead, total	LCS - S	Recovery	102	%	131	69	Concentration	108.5	mg/kg	
Lead, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Mercury, total	LCS - S	Recovery	109	%	121	79	Concentration	1.09	mg/kg	
Mercury, total	LCS - S	Recovery	110	%	121	79	Concentration	1.65	mg/kg	
Mercury, total	Method Blank - S	Concentration	0 U	mg/kg	0.054					
Molybdenum, total	LCS - S	Recovery	100	%	131	69	Concentration	56.78	mg/kg	
Molybdenum, total	LCS - S	Recovery	97	%	131	69	Concentration	54.93	mg/kg	
Molybdenum, total	Method Blank - S	Concentration	0.050 U	mg/kg	1.4					
Nickel, total	LCS - S	Recovery	101	%	131	69	Concentration	52.72	mg/kg	
Nickel, total	LCS - S	Recovery	98	%	131	69	Concentration	51.34	mg/kg	
Nickel, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Selenium, total	LCS - S	Recovery	94	%	131	69	Concentration	38.21	mg/kg	
Selenium, total	LCS - S	Recovery	90	%	131	69	Concentration	36.8	mg/kg	
Selenium, total	Method Blank - S	Concentration	0.040 U	mg/kg	1.4					
Total Solids	LCS - S	Recovery	100	%	121	79	Concentration	50	mg/kg	
Total Solids	Method Blank - S	Concentration	0 U	mg/kg	0.014			0.01		
Zinc, total	LCS - S	Recovery	100	%	131	69	Concentration	507	mg/kg	



Maine Environmental Laboratory

Report of Analyses

One Main Street, Yarmouth, ME 04096      Tel: 207-846-6569      FAX: 207-846-9066      Email: melab@mel-lab.com

April Sargent  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

Date of Issue: 7/14/2021  
  
Report ID: 9895-210714-1658

QC Data  
Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Zinc, total	LCS - S	Recovery	97	%	131	69	Concentration	491.1	mg/kg	
Zinc, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					



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# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

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## Report of Analyses

### Report Prepared for:

Jess Casterline  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 10678  
Report ID: 10678-211015-1400  
Date of Issue: October 15, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory report  
Chain of Custody form

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

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- All quality control data demonstrated acceptable limits
- The results reported herein conform to the most current NELAP standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.
- %RPD is not calculated when the native sample concentration is below 5 x LOQ.

### DEFINITIONS:

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J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."  
ND or U - Not detected below the LOD / MDL  
B - Detected in QC blank  
S - Detection Limits increased due to sample matrix  
4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.  
% Rec - Percent Recovery; RPD - Relative Percent Difference  
D - Duplicate sample  
R - Reanalysis  
DO - BOD: insufficient dissolved oxygen depletion to calculate Matrix Spike and MSD recoveries.

### METHOD REFERENCES:

SM2540G: Standard Methods for the Examination of Water and Wastewater, 18th edition, APHA, AWWA, WPCF, 1992.  
SW3050B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.  
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SW7471B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:

*Jacquelyn R. Villinski*

**Maine Environmental Laboratory****Report of Analyses**

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

Jess Casterline  
 Resource Management, Inc.  
 1171 NH Route 175  
 Holderness, NH 03245

October 15, 2021

Report ID: 10678-211015-1400  
 Batch ID: WMR 10678  
 Date received: 10/01/21  
 Project ID: DOV

Sample ID: DOV  
 Sample date: 09/27/21 11:00  
 Sample matrix: SU - composite  
 Laboratory ID: 211001K002

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	23.73	%	10/04/21	14:50		0.01	SM2540G	DJC
Mercury, total	0.57	mg/kg	10/14/21	10:30	0.084	0.21	SW7471B	DWS
Arsenic, total	18	mg/kg	10/13/21	8:40	1.3	4.2	SW3050B/SW6010C	DWS
Cadmium, total	ND	mg/kg	10/13/21	8:40	1.3	4.2	SW3050B/SW6010C	DWS
Chromium, total	19	mg/kg	10/13/21	8:40	4.2	13	SW3050B/SW6010C	DWS
Copper, total	400	mg/kg	10/13/21	8:40	4.2	13	SW3050B/SW6010C	DWS
Lead, total	17	mg/kg	10/13/21	8:40	4.2	13	SW3050B/SW6010C	DWS
Molybdenum, total	7.0	mg/kg	10/13/21	8:40	1.3	4.2	SW3050B/SW6010C	DWS
Nickel, total	15	mg/kg	10/13/21	8:40	4.2	13	SW3050B/SW6010C	DWS
Selenium, total	ND	mg/kg	10/13/21	8:40	2.1	6.3	SW3050B/SW6010C	DWS
Zinc, total	950	mg/kg	10/13/21	8:40	4.2	13	SW3050B/SW6010C	DWS

Notes:

# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096

Tel: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

## Report of Analyses

Jess Casterline  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

Date of Issue: 10/15/2021

Report ID: 10678-211015-1400

### QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Arsenic, total	LCS - S	Recovery	102	%	131	69	Concentration	26.91	mg/kg	
Arsenic, total	Method Blank - S	Concentration	-0.31	mg/kg	1.4					
Cadmium, total	LCS - S	Recovery	108	%	131	69	Concentration	109.7	mg/kg	
Cadmium, total	Method Blank - S	Concentration	-0.010	mg/kg	1.4					
Chromium, total	LCS - S	Recovery	110	%	131	69	Concentration	77.79	mg/kg	
Chromium, total	Method Blank - S	Concentration	0.020	mg/kg	3.4					
Copper, total	LCS - S	Recovery	102	%	131	69	Concentration	69.61	mg/kg	
Copper, total	Method Blank - S	Concentration	0.41	mg/kg	3.4					
Lead, total	LCS - S	Recovery	106	%	131	69	Concentration	112.6	mg/kg	
Lead, total	LCS - S	Recovery	111	%	131	69	Concentration	117.3	mg/kg	
Lead, total	Method Blank - S	Concentration	0.10 U	mg/kg	3.4					
Mercury, total	LCS - S	Recovery	107	%	121	79	Concentration	1.61	mg/kg	
Mercury, total	LCS - S	Recovery	108	%	121	79	Concentration	1.08	mg/kg	
Mercury, total	LCS - S	Recovery	89	%	121	79	Concentration	0.443	mg/kg	
Mercury, total	Matrix Spike - S	Recovery	101	%	121	79				211001K002
Mercury, total	Method Blank - S	Concentration	0 U	mg/kg	0.054					
Molybdenum, total	LCS - S	Recovery	108	%	131	69	Concentration	61.01	mg/kg	
Molybdenum, total	Method Blank - S	Concentration	-0.030	mg/kg	1.4					
Nickel, total	LCS - S	Recovery	107	%	131	69	Concentration	55.7	mg/kg	
Nickel, total	Method Blank - S	Concentration	0.050	mg/kg	3.4					
Selenium, total	LCS - S	Recovery	102	%	131	69	Concentration	41.58	mg/kg	
Selenium, total	Method Blank - S	Concentration	-0.29	mg/kg	1.4					
Total Solids	LCS - S	Recovery	100	%	121	79	Concentration	49.9	mg/kg	
Total Solids	Method Blank - S	Concentration	0 U	mg/kg	0.014			0.01		
Zinc, total	LCS - S	Recovery	104	%	131	69	Concentration	528	mg/kg	
Zinc, total	Method Blank - S	Concentration	0	mg/kg	3.4					

One Main Street Yarmouth Maine 04096-6716 (207) 846-6569 Fax: (207) 846-9066

Project Manager	Telephone
-----------------	-----------

Fax/E-Mail

labdata@rmirecycles.com

[illegible]

2021DOV

1171 NH RT 175 Holderness, NH 03245

Sampler Name

**April Sargent**

21001K003

1

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# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

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## Report of Analyses

### Report Prepared for:

Jess Casterline  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

### Report Information:

Batch ID: WMR 10985  
Report ID: 10985-211130-1341  
Date of Issue: November 30, 2021

The complete report consists of the following parts:

Maine Environmental Laboratory report  
Chain of Custody form

### REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

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- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.
- %RPD is not calculated when the native sample concentration is below 5 x LOQ.

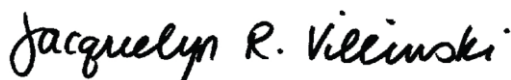
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B - Detected in QC blank  
S - Detection Limits increased due to sample matrix  
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SW7471B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.

This report has been reviewed and authorized by  
Jacquelyn R. Villinski, Laboratory Director:



**Maine Environmental Laboratory****Report of Analyses**

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

Jess Casterline  
 Resource Management, Inc.  
 1171 NH Route 175  
 Holderness, NH 03245

November 30, 2021

Report ID: 10985-211130-1341  
 Batch ID: WMR 10985  
 Date received: 11/10/21  
 Project ID: DOV

Sample ID: DOV  
 Sample date: 11/04/21 8:00  
 Sample matrix: SU - composite  
 Laboratory ID: 211110K002

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	27.42	%	11/10/21	16:30		0.01	SM2540G	DJC
Mercury, total	0.59	mg/kg	11/12/21	9:00	0.073	0.18	SW7471B	DWS
Arsenic, total	22	mg/kg	11/24/21	7:50	1.1	3.7	SW3050B/SW6010C	DWS
Cadmium, total	ND	mg/kg	11/24/21	7:50	1.1	3.7	SW3050B/SW6010C	DWS
Chromium, total	27	mg/kg	11/24/21	7:50	3.7	11	SW3050B/SW6010C	DWS
Copper, total	370	mg/kg	11/24/21	7:50	3.7	11	SW3050B/SW6010C	DWS
Lead, total	26	mg/kg	11/24/21	7:50	3.7	11	SW3050B/SW6010C	DWS
Molybdenum, total	6.6	mg/kg	11/24/21	7:50	1.1	3.7	SW3050B/SW6010C	DWS
Nickel, total	18	mg/kg	11/24/21	7:50	3.7	11	SW3050B/SW6010C	DWS
Selenium, total	2.4 J	mg/kg	11/24/21	7:50	1.8	5.5	SW3050B/SW6010C	DWS
Zinc, total	920	mg/kg	11/24/21	7:50	3.7	11	SW3050B/SW6010C	DWS

Notes:



# Maine Environmental Laboratory

One Main Street, Yarmouth, ME 04096

Tel: 207-846-6569

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## Report of Analyses

Jess Casterline  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

**Date of Issue:** 11/30/2021

**Report ID:** 10985-211130-1341

### QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Arsenic, total	LCS - S	Recovery	103	%	131	69	Concentration	27.01	mg/kg	
Arsenic, total	LCS - S	Recovery	101	%	131	69	Concentration	26.54	mg/kg	
Arsenic, total	Method Blank - S	Concentration	0.15 U	mg/kg	1.4					
Arsenic, total	Method Blank - S	Concentration	0.21 U	mg/kg	1.4					
Cadmium, total	LCS - S	Recovery	98	%	131	69	Concentration	99.66	mg/kg	
Cadmium, total	LCS - S	Recovery	96	%	131	69	Concentration	97.6	mg/kg	
Cadmium, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Cadmium, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Chromium, total	LCS - S	Recovery	106	%	131	69	Concentration	74.93	mg/kg	
Chromium, total	LCS - S	Recovery	106	%	131	69	Concentration	74.42	mg/kg	
Chromium, total	Method Blank - S	Concentration	0.23 U	mg/kg	3.4					
Chromium, total	Method Blank - S	Concentration	0.030 U	mg/kg	3.4					
Copper, total	LCS - S	Recovery	91	%	131	69	Concentration	63.42	mg/kg	
Copper, total	LCS - S	Recovery	91	%	131	69	Concentration	63.3	mg/kg	
Copper, total	Method Blank - S	Concentration	0.30 U	mg/kg	3.4					
Copper, total	Method Blank - S	Concentration	0.19 U	mg/kg	3.4					
Lead, total	LCS - S	Recovery	93	%	131	69	Concentration	102.9	mg/kg	
Lead, total	LCS - S	Recovery	93	%	131	69	Concentration	103	mg/kg	
Lead, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Lead, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Mercury, total	LCS - S	Recovery	103	%	121	79	Concentration	1.03	mg/kg	
Mercury, total	LCS - S	Recovery	103	%	121	79	Concentration	1.55	mg/kg	
Mercury, total	Method Blank - S	Concentration	0 U	mg/kg	0.054					
Molybdenum, total	LCS - S	Recovery	104	%	131	69	Concentration	57.58	mg/kg	
Molybdenum, total	LCS - S	Recovery	104	%	131	69	Concentration	57.71	mg/kg	
Molybdenum, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Molybdenum, total	Method Blank - S	Concentration	0.060 U	mg/kg	1.4					
Nickel, total	LCS - S	Recovery	104	%	131	69	Concentration	53.19	mg/kg	
Nickel, total	LCS - S	Recovery	102	%	131	69	Concentration	52.58	mg/kg	
Nickel, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					

# Maine Environmental Laboratory

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## Report of Analyses

Jess Casterline  
Resource Management, Inc.  
1171 NH Route 175  
Holderness, NH 03245

**Date of Issue:** 11/30/2021

**Report ID:** 10985-211130-1341

### QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Nickel, total	Method Blank - S	Concentration	0 U	mg/kg	3.4					
Selenium, total	LCS - S	Recovery	90	%	131	69	Concentration	37.83	mg/kg	
Selenium, total	LCS - S	Recovery	90	%	131	69	Concentration	37.87	mg/kg	
Selenium, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Selenium, total	Method Blank - S	Concentration	0 U	mg/kg	1.4					
Total Solids	LCS - S	Recovery	100	%	121	79	Concentration	49.9	mg/kg	
Total Solids	Method Blank - S	Concentration	0 U	mg/kg	0.014			0.01		
Zinc, total	LCS - S	Recovery	95	%	131	69	Concentration	480	mg/kg	
Zinc, total	LCS - S	Recovery	94	%	131	69	Concentration	474.8	mg/kg	
Zinc, total	Method Blank - S	Concentration	0.10 U	mg/kg	3.4					
Zinc, total	Method Blank - S	Concentration	0.90 U	mg/kg	3.4					

Dr. Maria Clara Y. Zamora, M.D. 04006 6716 (307) 846 6560 Fax: (307) 846 9066

email: melab@maine.rr.com

Fax/E-Mail

labdata@rmirecycles.com

Purchase Order #/Bill To

2021DOV

1171 NH RT 175 Holderness, NH 03245

**Sampler Name**

## Jess Casterline

Sampling Date/Time

1/4/21 8:00

★	Strontium
✶	Zinc

21110K002	Laboratory Identification Subcontractor
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Delivered by:

1395

Turnaround Request:

Standard

Priority

Quote #

Laboratory Identification/  
Subcontractor

Comments: NH SQC Detection Limits &amp; EDD

no

Lab

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## ANALYTICAL REPORT

Lab Number:	L2168412
Client:	Resource Management Inc. 1171 NH RT. 175 Holderness, NH 03245
ATTN:	Jess Casterline
Phone:	(603) 536-8900
Project Name:	DOVER
Project Number:	Not Specified
Report Date:	01/05/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L2168412-01	DOV	SLUDGE	DOVER, NH	12/09/21 08:30	12/13/21

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

### Case Narrative (continued)

Perfluorinated Alkyl Acids by Isotope Dilution

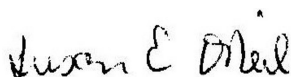
L2168412-01 and -01MeOH: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2168412-01: The MeOH fraction of the extraction is reported for the following compounds:

Perfluorooctanesulfonamide (FOSA), N-Methyl Perfluorooctane Sulfonamide (NMeFOSA), N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA), N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE), and N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE) due to better extraction efficiency of the Surrogates (Extracted Internal Standards).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 01/05/22

# ORGANICS



# SEMIVOLATILES

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

**SAMPLE RESULTS**

**Lab ID:** L2168412-01  
**Client ID:** DOV  
**Sample Location:** DOVER, NH

**Date Collected:** 12/09/21 08:30  
**Date Received:** 12/13/21  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Sludge  
**Analytical Method:** 134,LCMSMS-ID  
**Analytical Date:** 01/04/22 11:36  
**Analyst:** SG  
**Percent Solids:** 22%

**Extraction Method:** ALPHA 23528  
**Extraction Date:** 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	1.08	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	2.16	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	2.16	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	4.32	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	4.32	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	40		10-117
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	22		10-146
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	15		10-145
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	22		10-146
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	6	Q	10-129

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

**SAMPLE RESULTS**

**Lab ID:** L2168412-01  
**Client ID:** DOV  
**Sample Location:** DOVER, NH

**Date Collected:** 12/09/21 08:30  
**Date Received:** 12/13/21  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Sludge  
**Analytical Method:** 134,LCMSMS-ID  
**Analytical Date:** 12/23/21 06:40  
**Analyst:** RS  
**Percent Solids:** 22%

**Extraction Method:** ALPHA 23528  
**Extraction Date:** 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	1.08	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	1.08	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.540	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	2.16	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	1.08	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	2.16	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.540	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.540	--	1
Perfluorooctanoic Acid (PFOA)	0.847	F	ng/g	0.540	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.08	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	1.08	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.540	--	1
Perfluorooctanesulfonic Acid (PFOS)	10.6		ng/g	0.540	--	1
Perfluorodecanoic Acid (PFDA)	0.750		ng/g	0.540	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	1.08	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	2.16	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.47		ng/g	1.08	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	1.08	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.08	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	1.60		ng/g	1.08	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.08	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.08	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.08	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	21.6	--	1
4,8-Dioxo-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	2.16	--	1
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/g	5.40	--	1
Perfluorooctadecanoic Acid (PFODA)	ND		ng/g	5.40	--	1

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

**SAMPLE RESULTS**

**Lab ID:** L2168412-01  
**Client ID:** DOV  
**Sample Location:** DOVER, NH

**Date Collected:** 12/09/21 08:30  
**Date Received:** 12/13/21  
**Field Prep:** Not Specified

**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorododecane Sulfonic Acid (PFDoDS)	ND		ng/g	2.16	--	1
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	ND		ng/g	2.16	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	2.16	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	2.16	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	71		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	73		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	62	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	185	Q	14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	73		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	68	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	79		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	177	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	63	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	182	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	59		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	24	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	31	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	72		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	89		10-203
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	41		10-145
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	86		50-150

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

### Method Blank Analysis Batch Quality Control

**Analytical Method:** 134,LCMSMS-ID  
**Analytical Date:** 01/03/22 18:56  
**Analyst:** SG

**Extraction Method:** ALPHA 23528  
**Extraction Date:** 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1585821-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.250	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.500	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.00	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.00	--

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	74		10-117
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	64		10-146
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	67		10-145
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	88		10-146
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	91		10-129

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

### Method Blank Analysis Batch Quality Control

**Analytical Method:** 134,LCMSMS-ID  
**Analytical Date:** 12/23/21 06:07  
**Analyst:** RS

**Extraction Method:** ALPHA 23528  
**Extraction Date:** 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1585821-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.250	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.250	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.125	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.500	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.250	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.500	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.125	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.125	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.125	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.250	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.250	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.125	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.125	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.125	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.250	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.500	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.250	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.250	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.250	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.250	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.250	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.250	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.250	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.250	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	5.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.500	--

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 134,LCMSMS-ID  
 Analytical Date: 12/23/21 06:07  
 Analyst: RS

Extraction Method: ALPHA 23528  
 Extraction Date: 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1585821-1					
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/g	1.25	--
Perfluorooctadecanoic Acid (PFODA)	ND		ng/g	1.25	--
Perfluorododecane Sulfonic Acid (PFDoDS)	ND		ng/g	0.500	--
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	ND		ng/g	0.500	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.500	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.500	--

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

### Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID  
 Analytical Date: 12/23/21 06:07  
 Analyst: RS

Extraction Method: ALPHA 23528  
 Extraction Date: 12/21/21 07:27

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1585821-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	95		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	91		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	83		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	107		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	82		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	93		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	108		10-203
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	82		10-145
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	96		50-150



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1585821-2								
Perfluorobutanoic Acid (PFBA)	95		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	94		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	95		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	95		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	95		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	87		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	96		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	100		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	100		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	99		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	83		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	96		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	95		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	82		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	99		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	103		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	98		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	102		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	89		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	111		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	99		-		69-135	-		30

# **Lab Control Sample Analysis** Batch Quality Control

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1585821-2								
Perfluorotridecanoic Acid (PFTrDA)	104		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	90		-		69-133	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	94		-		41-165	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		68-143	-		30
Perfluorohexadecanoic Acid (PFHxDA)	88		-		18-191	-		30
Perfluorooctadecanoic Acid (PFODA)	74		-		10-123	-		30
Perfluorododecane Sulfonic Acid (PFDoDS)	86		-		50-150	-		30
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	100		-		37-261	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	89		-		69-139	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	98		-		51-155	-		30

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1585821-2

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	94				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	96				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	95				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	117				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	91				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	42				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	93				24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	105				10-203
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	82				10-145
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	110				50-150

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1585821-2								
Perfluorooctanesulfonamide (FOSA)	119		-		67-137	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	122		-		62-149	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	115		-		71-156	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	109		-		10-239	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	104		-		10-275	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	73				10-117
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	65				10-146
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	67				10-145
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	88				10-146
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	91				10-129

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1585821-3 WG1585821-4 QC Sample: L2168855-02 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	6.31	6.13	91		6.34	96		71-135	3		30
Perfluoropentanoic Acid (PFPeA)	ND	6.31	6.31	93		6.45	96		69-132	2		30
Perfluorobutanesulfonic Acid (PFBS)	ND	5.61	5.16	91		5.36	95		72-128	4		30
Perfluorohexanoic Acid (PFHxA)	1.16	6.31	6.92	91		7.31	99		70-132	5		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	5.94	5.00	84		4.83	82		73-123	3		30
Perfluoroheptanoic Acid (PFHpA)	ND	6.31	6.33	97		6.24	97		71-131	1		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	5.77	5.82	101		5.76	101		67-130	1		30
Perfluorooctanoic Acid (PFOA)	1.29	6.31	7.19	93		7.60	101		69-133	6		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	6.01	4.90	82		4.75	80		70-132	3		30
Perfluorononanoic Acid (PFNA)	0.340	6.31	6.30	94		6.79	103		72-129	7		30
Perfluorooctanesulfonic Acid (PFOS)	3.85	5.86	9.82	102		10.5	115		68-136	7		30
Perfluorodecanoic Acid (PFDA)	2.20	6.31	7.56	85		7.83	90		69-133	4		30
Perfluorononanesulfonic Acid (PFNS)	ND	6.07	5.29	87		4.82	80		69-125	9		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2.05	6.31	9.62	120		9.67	122		63-144	1		30
Perfluoroundecanoic Acid (PFUnA)	ND	6.31	6.21	96		6.28	98		64-136	1		30
Perfluorodecanesulfonic Acid (PFDS)	ND	6.09	4.75	78		4.26	71		59-134	11		30
Perfluorooctanesulfonamide (FOSA)	ND	6.31	5.71	88		6.12	95		67-137	7		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.880	6.31	7.03	97		6.98	98		61-139	1		30
Perfluorododecanoic Acid (PFDoA)	ND	6.31	6.24	91		6.42	95		69-135	3		30
Perfluorotridecanoic Acid (PFTrDA)	ND	6.31	5.66	90		6.65	107		66-139	16		30
Perfluorotetradecanoic Acid (PFTA)	ND	6.31	5.21	80		5.87	91		69-133	12		30

**Matrix Spike Analysis****Batch Quality Control**

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

<b>Parameter</b>	<b>Native Sample</b>	<b>MS Added</b>	<b>MS Found</b>	<b>MS %Recovery</b>	<b>Qual</b>	<b>MSD Found</b>	<b>MSD %Recovery</b>	<b>Qual</b>	<b>Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1585821-3 WG1585821-4 QC Sample: L2168855-02 Client ID: MS Sample												

<b>Surrogate (Extracted Internal Standard)</b>	<b>MS % Recovery</b>	<b>MS Qualifier</b>	<b>MSD % Recovery</b>	<b>MSD Qualifier</b>	<b>Acceptance Criteria</b>
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	118		121		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	96		103		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	71		66		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		98		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	74		71		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		78		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	85		97		78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	88		81		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		80		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		83		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	76		74		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	60		54		10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		100		79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		82		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		83		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		93		74-139

# **INORGANICS & MISCELLANEOUS**

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

**SAMPLE RESULTS**

**Lab ID:** L2168412-01  
**Client ID:** DOV  
**Sample Location:** DOVER, NH

**Date Collected:** 12/09/21 08:30  
**Date Received:** 12/13/21  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Sludge

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	22.3		%	0.100	--	1	-	12/28/21 20:51	121,2540G	GF





**Lab Duplicate Analysis**  
*Batch Quality Control*

**Project Name:** DOVER  
**Project Number:** Not Specified

**Lab Number:** L2168412  
**Report Date:** 01/05/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1588510-1 QC Sample: L2167326-01 Client ID: DUP Sample						
Solids, Total	64.2	64.0	%	0		10

**Project Name:** DOVER  
**Project Number:** Not Specified

Serial\_No:01052210:55  
**Lab Number:** L2168412  
**Report Date:** 01/05/22

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>
L2168412-01A	Plastic 8oz unpreserved

<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
A	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14),A2-TS(7)

Project Name: DOVER

Project Number:

Serial\_No:01052210:55  
Lab Number: L2168412

Report Date: 01/05/22

## PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
<b>PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)</b>		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
<b>PERFLUOROALKYL SULFONIC ACIDS (PFSAs)</b>		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
<b>FLUOROTELOMERS</b>		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
<b>PERFLUOROALKANE SULFONAMIDES (FASAs)</b>		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
<b>PERFLUOROALKANE SULFONYL SUBSTANCES</b>		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
<b>PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS</b>		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
<b>CHLORO-PERFLUOROALKYL SULFONIC ACIDS</b>		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
<b>PERFLUOROETHER SULFONIC ACIDS (PFESAs)</b>		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEEESA	113507-82-7
<b>PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)</b>		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

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## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

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the identification is based on a mass spectral library search.

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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## REFERENCES

- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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**Certification Information****The following analytes are not included in our Primary NELAP Scope of Accreditation:****Westborough Facility****EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B**The following analytes are included in our Massachusetts DEP Scope of Accreditation****Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



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